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MONTANA

BUSINESS QUARTERLY

SPRING 2016

A Year of Strong Growth
Statewide Economic
Performance

Higher Education
Explaining the
Outmigration of
Montana's College-
Educated Workers

MONTANA'S ECONOMIC OUTLOOK

Q&A WITH MONTANA'S TOP ECONOMISTS

ABOUT THE BUREAU

The Bureau of Business and Economic Research has been providing information about Montana's state and local economies for more than 50 years. Housed on the campus of the University of Montana-Missoula, the Bureau is the research and public service branch of the School of Business Administration. On an ongoing basis, the Bureau analyzes local, state and national economies; provides annual income, employment and population forecasts; conducts extensive research on forest products, manufacturing, health care and Montana Kids Count; designs and conducts comprehensive survey research at its on-site call center; presents annual economic outlook seminars in cities throughout Montana; and publishes the award-winning *Montana Business Quarterly*.

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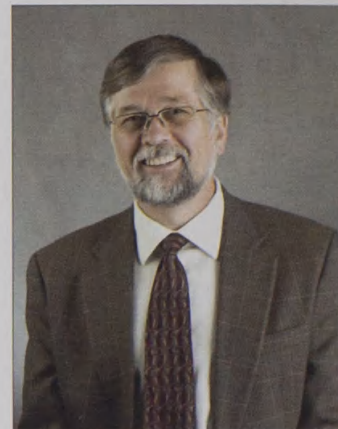
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MESSAGE FROM PRESIDENT ROYCE ENGSTROM

What's ahead for the economy is always important for all of us who live and work in Montana. But it's especially so for the men and women whom we're graduating and sending into the workforce with newly acquired degrees and experience in the classroom and beyond. What's ahead for them matters a great deal, both for the graduates and their families, as well as for all of us who stand to gain from their talents and their leadership.



If the predictions in these pages prove accurate, those prospects are even more promising this year. The job market looks to be as good across Montana as it has been in years. That's good news for all of us, but especially for those starting their careers out of school.

Much has been written lately of another event frequently associated with graduation: student debt. The burden of paying back loans taken out to pay for college, it is said, is affecting everything from marriage plans to the ability to buy a home. Lost in much of this discussion is that fact that not all colleges and universities impose the same cost burdens on their students. Indeed, we are proud to continue to offer a world class education experience at the University of Montana with tuition and fee levels that are among the lowest of our peers.

Best of luck to all of you for the coming year.

Sincerely,

Royce C. Engstrom
President
University of Montana

MONTANA BUSINESS QUARTERLY

SPRING 2016

VOLUME 54 NUMBER 1

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A YEAR OF STRONG GROWTH

STATEWIDE ECONOMIC PERFORMANCE

BY PATRICK BARKEY

If you pay close attention, you will notice that almost all economic forecasts have two things in common – first, they are optimistic. Recessions are much less common than growth, after all. But those forecasts are usually accompanied by a second thing – a long list of problems that could make those optimistic forecasts go bad; such as a downturn in energy, mining and farming businesses. But other parts of Montana's economy remained strong in 2015 and the state went on to post a good year.

In 2015, the state economy was up over 6,000 jobs and more than \$600 million in wages and salaries compared to the previous fiscal year. That job growth was in line with the previous three years, but wage growth in FY 2015 was more than twice as strong as 2014. Together with falling unemployment rates and surging tax revenues, 2015 saw the Montana economy operate much closer to full capacity.

Looking at the wage growth in some major industry categories gives insight into how this came about. Except for the declines in mining wages, due to setbacks in both oil production and metal mining, the story across Montana's industries was one of growth. Construction and manufacturing were especially strong, posting percentage growth rates of 8.5 and 5.5 percent in FY 2015, respectively. Even public administration, which

excludes schools from the government total, registered growth.

Growth in construction wages does not signal a rebound in single family home construction, which has only begun to show signs of life after almost six years of depressed levels. It's largely been driven by multi-family residential, commercial and industrial projects, together with civil construction projects. Western Montana is seeing more residential construction, particularly in Bozeman, with Billings experiencing more commercial and industrial projects.

Signs of the steep decline in crude oil prices since mid-2014 are apparent in the economic performance of the oil patch counties on the eastern edge of the state, which have begun to slide after years of strong growth. It's too soon to register the impact of lower wheat prices on activity in counties with a high grain farming presence and the strength in retail trade and the accommodations industries is consistent with estimates of higher spending by non-resident visitors.

The patterns of greater balance, both geographically and across industries, continue to unfold across Montana. With the exception of Butte-Silver Bow, whose economy has been buffeted by lower commodity prices, growth in western Montana continues to improve, with the torrid growth in the east cooling significantly. ■



ECONOMIC OUTLOOK

Q & A WITH MONTANA'S TOP ECONOMISTS & INDUSTRY EXPERTS

THE ECONOMY PATRICK BARKEY &
PAUL E. POLZIN

Q. What kind of year was 2015 for the Montana economy?

It was a pretty good year overall. Income growth was reasonably strong, and wage and salary growth will come in around 4 percent, corrected for inflation. That's quite an uptick from 2014.

The big story is Montana's economy coming into balance; both geographically and across industries. Three or four years ago, commodity prices were high and oil was booming. That, along with high agriculture prices, made for faster growth in rural counties, primarily eastern counties, rather than in bigger cities. At the same time consumer spending was weak and important industries for western Montana, including wood products and new home construction, were depressed.

The recent growth patterns look more like those that pre-dated the commodity boom. The more populous western counties are growing again, as migration trends resume and income gains make consumer spending stronger. Home building has modestly recovered and industries like health care and professional services have picked up their pace.

Q. Which Montana communities will be the fastest growing and which ones may face challenges in the future?

Gallatin County is projected to be the fastest growing

community between 2016 and 2019. A strong high-tech sector, a fast recovering construction industry, increasing enrollment at Montana State University and Bozeman's continuing growth as a regional trade center, have all contributed to its robust performance. Flathead County will be second, driven by construction, increases in non-resident travel, continued growth as a regional trade and service center, and stability in the wood products industry.

At the other end of the spectrum are Ravalli County and Cascade County, which may face economic headwinds. Ravalli County suffered significant declines in construction and the log home industry. Construction has still not improved. But several new manufacturing firms and expansions at existing companies have contributed to a recent upturn in Cascade County. A new industrial park has opened and a number of new tenants have been announced.

AGRICULTURE GEORGE HAYNES

Q. Why have grain and cattle prices fallen?

Winter and spring wheat prices fell this past year, below long-term historical averages, due to the high stocks of wheat, which were 14 percent higher than a year ago. And projected wheat stocks are at their highest since 2009-10. Wheat exports have also lagged because of the strength of dollar and abundant supplies in foreign markets. Exports of wheat have been the lowest we've seen since 1971-72.





Montana's second most important crop, barley, has seen steady to slightly lower prices. The barley market has remained relatively strong because of the high percentage of malt barley raised in Montana and its strong demand.

Cattle prices, most importantly calf prices, have declined over the past year. However, they remain above long-term historical averages. The cattle market is expanding as more cattle are being brought into the breeding herd. And an increase of about 3 percent in cattle numbers and the expectation of future increases has driven futures prices down.

Q. Are lower energy prices good for farmers and ranchers?

Energy prices are about \$1 per gallon less than last year and that's good news for both farmers and ranchers. Farmers will benefit from lower fuel and fertilizer bills, and that will lower their break-even prices. Depending on farming methods, break-even prices could trend down by \$0.50 per bushel or more. Ranchers too will benefit from lower fuel prices, which will impact their cost for haying and transportation. Most importantly though, savings in energy-related costs will go directly to the bottom line for producers.

ENERGY TERRY JOHNSON

Q. What is the state of the coal industry and does it remain important in Montana?

There is no doubt that the coal industry is facing some big challenges. Regardless of the market shift from coal to natural gas for power generation, coal will continue to be a viable source of energy for years to come as it takes time and capital resources to switch power generation facilities. And a vast potential for coal exports still exist, provided that what U.S. producers can remain price competitive.

Unlike producers in other states, Montana has managed to do well. The economic benefit of this sector to Montana's economy is important, creating high-paying jobs and a significant amount of state and local tax revenue that is used to fund a variety of services throughout the state.

Q. Will the decline in oil prices bring about an economic decline similar to what Montana saw in the 1980s?

The early 1980s saw a period of high inflation and interest rates. By the middle of the decade, economic growth had slowed significantly – Montana's total wage and salary income declined, farm income plummeted

and corporate profits fell. While an oil oversupply existed then like today, other economic conditions do not exist as they did in the 1980s.

Economic growth in Montana is expected to be moderate as the construction, real estate, manufacturing and tourism sectors continue to be strong.

MANUFACTURING STEVEN W. HAYES
& TODD A. MORGAN

Q. Are manufacturers in Montana becoming less optimistic? What are their biggest concerns?

Montana manufacturers are less optimistic about 2016 than they were about 2015, but overall, they still have a positive outlook on the future. By sector, food and beverage manufacturers have the most optimistic outlook and the wood products sector is the least optimistic.

From our annual outlook survey of almost 200 Montana manufacturers, their biggest concerns were health insurance costs and the availability of qualified workers, followed by the availability of raw material and worker's compensation rates and rules. A number of Montana manufacturers are particularly concerned about finding enough skilled labor.

Q. What kind of year did manufacturing have in 2015?

After four years of growth, 2015 was the first year that Montana saw a decline in manufacturing jobs. Several changes during late 2014 and 2015 created challenges for Montana manufacturing: A strong U.S. dollar put domestic manufacturers at a disadvantage in foreign markets and made imports cheaper at home, while slowing foreign economies led to a reduction of exports, especially to China and Europe.

Slower than expected U.S. housing starts and over-supplied lumber markets limited wood products during 2015. And substantially lower crude oil prices reduced sales from refineries and manufacturers serving the oil industry in the Bakken.

HOUSING KYLE MORRILL

Q. Are home prices showing growth again in Montana?

Home prices are growing again. Statewide, prices have increased nearly 23 percent from their recessionary low in 2011. Some markets have grown at a higher rate than others, but all are much healthier now than they were seven or eight years ago. Economic growth, along with low interest rates, is spurring demand. Sales volume has increased roughly 50 percent from 2011 statewide. And new housing starts are up 45 percent from 2010.

Population growth has increased with more people

moving into the state, spurring a demand for housing. The recession cut net-migration into Montana by more than half, but the past couple of years have seen a return to 2002-08 levels.

Q. Are there concerns that homes are becoming unaffordable?

Absolutely. Housing affordability was at its peak level of unaffordability in 2007. Falling prices throughout the recession lowered the affordability of homes, as housing prices fell further than incomes. Now prices are growing at a faster rate than incomes across in the state. Affordability was at its highest in 2012 and most markets have not returned to pre-recession levels of unaffordability; but the trend is certainly going in that direction.

TOURISM NORMA P. NICKERSON

Q. It seemed like a good year for visitor spending in Montana. What does the data show?

There were some interesting trends in spending and visitation numbers for Montana in 2015. Visitation increased 8 percent compared to 2014, yet spending decreased 8 percent compared to 2015. There are a few possible explanations:

First, the decline in gasoline prices had a big impact on amount spent in Montana by non-residents. Before 2015, visitors spent 32 percent of their dollar on fuel. In 2015, that spending was down to 22. Second, there appears to be a significant switch in where visitors spent their money. Restaurant and bar spending decreased seven percent and purchases of groceries and snacks decreased 12 percent. Yet, retail purchases increased 10 percent with the inclusion of Made in Montana products. Campground spending also went up 36 percent and outfitter-guide trip purchases rose 22 percent. Travelers seem to be more interested in having experiences rather than purchasing tangible goods to take home with them. Third, Canadian traffic to Montana decreased this past year and so did spending, especially along the Highline, in Great Falls and the Flathead area.

Q. Is the international composition of visitors to Montana changing?

Only 2 percent of visitors to Montana are from overseas, with 12 percent from Canada. However, there is a definite change happening. In our yearly survey of Montana tourism businesses, 39 percent of respondents said they had an increase in international visitors. The most cited country was the United Kingdom followed by China, Germany, Japan, Australia, France and the Netherlands.

The big difference is the high percentage of visitors



coming from China. Nationally, the number of visitors from China to the U.S. ranks as the seventh highest visitor group. By 2020, Chinese visitors are expected to be one of the largest groups of visitors to the U.S. behind Canada and Mexico.

A large draw is our national parks. Chinese visitation to Yellowstone National Park and Teton National Park was higher in 2015. Around a half million Chinese and other Asians came through Yellowstone and the Tetons in 2015.

HEALTH CARE BRYCE WARD

Q. Is the slowdown in health care over? Why does health care always seem to grow faster than everything else?

Health care has always grown at rates faster than the rest of the economy. Since 1990, Montana's health care employment has grown by an average of 2.8 percent annually. During and after the Great Recession though, health care grew more slowly – roughly in line with the rest of the economy.

The big question is whether slower growth is the new normal or if it will return to rates faster than the rest of the economy. While the health care sector is implementing or investigating a variety of reforms intended to slow

the growth of health care spending, health care forecasts tend to see it reverting to its historical trend of growing faster.

In the short to intermediate term, a substantial portion of spending growth will be driven by the expansion of insurance coverage to the previously uninsured under the Affordable Care Act and by aging baby boomers. If spending per person resembles the recent past, these two forces could boost health care spending in Montana by approximately \$2.6 billion, or 33 percent, over the next 10 to 15 years.

Q. Is health care growing faster in some places than others?

Growth has not been evenly distributed across Montana. While health care has historically been concentrated in health care centers, such as Billings, Missoula and Great Falls, in recent years it has grown much faster in Montana's secondary markets; Bozeman, Kalispell, Helena and Butte.

Cascade, Missoula and Yellowstone counties have all experienced employment and payroll growth in line with the state, while Gallatin, Flathead, Lewis and Clark, and Silver Bow counties experienced a faster employment and payroll growth. ■

OUR CONTRIBUTORS

MEET THE EXPERTS



Patrick M. Barkey is the director of the Bureau of Business and Economic Research. He's been involved with economic forecasting for more than 25 years. He previously served as director of the Bureau of Business Research at Ball State University. He received a bachelor's degree and Ph.D. in economics from the University of Michigan.



Steve Hayes is a research forester at the Bureau of Business and Economic Research. He is a certified forester and member of the Society of American Foresters. He spent 30 years working for the Plum Creek Timber Company and Champion International Corporation. He received a bachelor's degree in forest resource management and master's degree in forestry from the University of Montana.



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Terry Johnson is an economist, statistician and financial analyst for the Montana Legislature. He's served that state of Montana for more than 39 years. In 2004, he became the first Montanan to receive an award from the National Council of State Legislatures. He received a bachelor's degree in mathematics from Montana State University.



Todd A. Morgan is the director of Forest Industry Research for the Bureau of Business and Economic Research. He is a certified forester and member of the Society of American Foresters. He received a bachelor's degree in philosophy and forest science from Pennsylvania State University and a master's degree in forestry from the University of Montana.



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Paul E. Polzin is the former director of the Bureau of Business and Economic Research. He's studied the Montana economy for more than 40 years. In addition to developing economic projections for the future, he conducts research on economic trends in Montana. He attended the University of Michigan and received a Ph.D. in economics from Michigan State University.



Bryce Ward is the associate director and director of Health Care Research at the Bureau of Business and Economic Research. He previously served as a senior economist at ECONorthwest, a Portland, Oregon-based economics consulting firm. He received a bachelor's degree in economics and history from the University of Oregon and a Ph.D. in economics from Harvard University.

HIGHER EDUCATION

EXPLAINING THE OUTMIGRATION OF MONTANA'S COLLEGE-EDUCATED WORKERS

BY BRYCE WARD

Montanans love Montana. A recent Gallup poll asked whether or not respondents believed that their state was the best, or one of the best, states in which to live. Seventy-seven percent of Montanans chose their home state. This tied Alaska for the highest percentage. In contrast, fewer than 20 percent of people in Rhode Island and Illinois think that their state is one of the best places to live.

Non-Montanans also like Montana. Between 2010 and 2014, 20,502 more people moved into the state than moved out.

Montana's net migration rate – the number of net migrants per 1,000 initial residents – ranked 13th among all states over this period, was three times as fast as the median state (Louisiana), and was on par with states like Massachusetts, Tennessee, South Dakota and Oregon.

To an economist, this indicates that Montana's economy is healthy. Within the United States, people are able to live where they want and if people want to live in your state, then chances are, your state's economy is good. For one group, though, Montana appears less desirable – the college-educated, and particularly the young and college-educated.

For the past two decades, Montana has experienced a slight out-migration of college graduates. Two facts help illustrate this. First, the number of people currently living in Montana with a college degree (approximately 200,000) is less than the number of people born in

Montana who have obtained a college degree (221,000). Second, the growth in the number of people with a college degree living in Montana is less than the number of college degrees produced by Montana colleges. Since 1990, Montana colleges have produced 120,000 bachelor's degrees, but Montana's college-educated population has only grown by 97,500.

Data collected by the Census Bureau's American Community Survey (ACS) show this out-migration directly (albeit with a large margin of error). The ACS asked people whether they had moved within the past year. Between 2008 and 2012, 564 more college graduates moved out of Montana each year than moved in. During this period, Montana's net migration rate (the number of net migrants per 1,000 initial residents) for college graduates was the seventh lowest in the country. And migration skews higher for college-educated Montanans under the age of 35. Among this group, nearly 1,100 more people moved out of Montana than moved in each year. Montana's net migration rate for college graduates under age 35 ranks 48th – topped only by Alaska and Idaho.

As shown in Figure 1, Montana's young college-educated population are the exception because Montana has a positive net migration rate for every other education-age group.

This pattern does not appear to be driven by people coming to Montana for college and then leaving after



NET MIGRANTS PER 1,000 PEOPLE

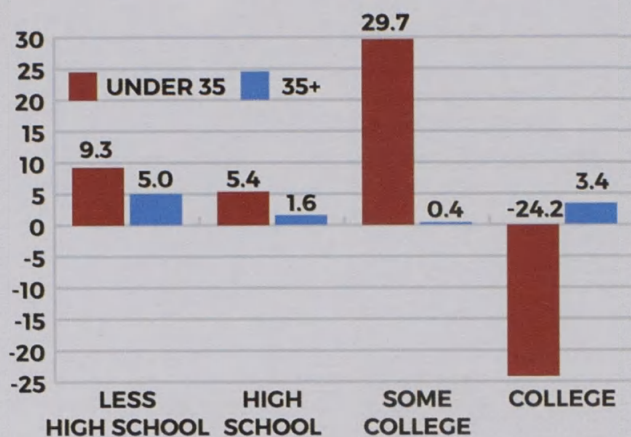


Figure 1. Montana's net migration rate by education and age group. (Source: American Community Survey, 2008-12.)

graduating. For those enrolled in postsecondary institutions between 1994 and 2006, Montana had an average out-migration of 433 students.

It is important to keep two additional facts in mind when considering the data. First, the vast majority of Montana residents who enroll in Montana colleges remain in Montana after graduation. Data matched to Montana University System graduates from 2011 to 2013 to payroll tax records from Montana employers shows 76 percent of Montana University System (MUS) graduates are employed in Montana within their first year after graduation. In contrast, only 36 percent of non-resident MUS graduates are employed in Montana in their first year after graduation.

Second, while more young college-educated workers are moving out of Montana than moving in, the total number of young college-educated workers is not shrinking. In 2008, there were roughly 38,000 college-educated Montanans under age 35. In 2014, there were over 46,000.

This pattern of out-migration with a growing population hints at a possible explanation: Montana's economy simply lacks the capacity to absorb young college graduates. Stated in the language of economics – supply is high relative to demand.

Consistent with supply exceeding demand, earnings for Montana's college graduates are low. The average Montanan with a college degree, working full-time (more than 35 hours per week and more than 40 weeks per year), earns nearly \$24,000 less per year than the average American college graduate. Montana ranks last or close to last in average earnings for college-educated workers.

Low earnings for Montana's college-educated reflects two forces: First, across all occupations, college-educated Montanans tend to earn less money than their counterparts elsewhere in the U.S. There is not a single major occupation where Montana's college-educated workers report higher earnings than the U.S. average. And that wage gap is larger in high paying occupations like computer and mathematical jobs, business and finance, management, and legal occupations.

Second, Montana has disproportionately fewer jobs in careers with high average earnings. Montana's college-educated workers tend to be concentrated within lower wage occupations overall. If college-educated workers in Montana were spread across occupations in the same proportions as the U.S. economy, Montana would have 3,000 more college-educated workers in business and finance or computer and mathematical

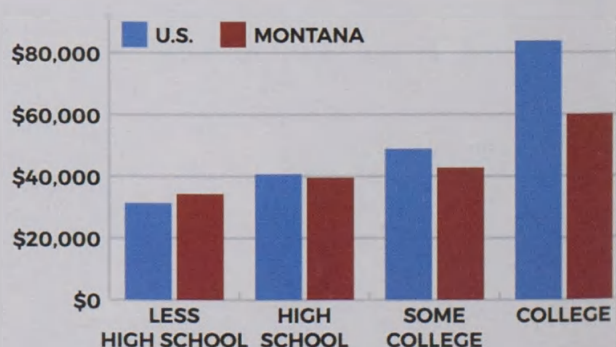


Figure 2. Average earnings for full-time, full-year workers by education. (Source: BBER analysis of American Community Survey, 2008-12.)

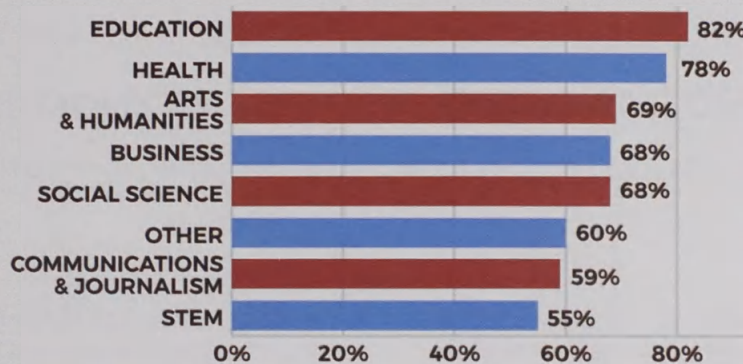


Figure 3. Percent of 2011 to 2013 MUS bachelor's graduates employed in Montana within one year of graduation, by major group. (Source: BBER.)

professions, over 1,300 more workers in sales and related jobs, and 600 more employed in legal occupations.

The data suggest that Montana's economy may not generate enough opportunities for young college-educated workers – particularly for those with certain interests or skills. The data on employment outcomes for MUS graduates support this story.

The probability that a graduate is gainfully employed in Montana following graduation varies across all major fields (see Figure 3). About 80 percent of MUS bachelor's degree recipients who major in education or health professions are employed in Montana within their first year after graduation. And a vast majority of these individuals are employed in the education and health industries. In contrast, only 38 percent of MUS bachelor's degree recipients who major in engineering (and 55 percent of STEM degree holders) are employed in Montana within their first year. This pattern is consistent with Montana offering robust opportunities to graduates interested in working in fields like education or health, but fewer opportunities in STEM or media careers.

Thus, low wages and/or a lack of jobs provides the most plausible explanation for the net out-migration of young college-educated Montanans, while other factors that tend to drive migration, like the cost of living or quality of life, seem less plausible.

Montana is not particularly expensive relative to other places. According to data from the Bureau of Economic Analysis, Montana is the 23rd cheapest state in which to live. Montana also offers an exceptional quality of life. In spite of its low wages, people continue to move

to Montana for access to its mountains, rivers and lakes, abundant open spaces, and strong sense of community. It is possible that the young and college-educated desire amenities not offered in Montana (e.g., the restaurants, clubs, concerts and social scenes of big cities). However, the effect of this on Montana's net migration is small. More likely, the young and college-educated disproportionately leave Montana to seek jobs and incomes not available within the state.

The loss of young college-educated workers is a weak link in Montana's economy. If Montanans want a healthy economy and a future for their children within the state, they will need to address these issues. In recent decades, regional economists have found that the number of skilled, creative workers in a region strongly predicts long-term regional economic success. The net outmigration of young college graduates from Montana's economy represents the loss of an important regional resource that could have a lasting effect on Montana's long-term economic health. ■

FARMING AND RANCHING

BY GEORGE HAYNES, KATE FULLER & VINCENT SMITH

Montana small grains and corn producers experienced lower prices and revenues while the livestock sector enjoyed a period of profitability in 2015. Favorable weather over the summer resulted in average or relatively good yields for many wheat, barley and hay producers throughout most of Montana. The exception was northwest Montana, where drought conditions had an adverse effect on forage production. Near record levels of worldwide wheat production resulted in wheat prices that at harvest time in 2015 were more than 30 percent lower than in 2014. And barley prices trended downward through the spring of 2015, but rebounded by October to exceed 2014 fall prices by about 15 percent.

Hay prices have remained relatively stable around \$120 to \$130 per ton for the past couple of years. While lower wheat and corn prices have adversely affected revenues for many crop producers, they have also lowered feed costs. Although calf prices were lower than the record levels of 2014, they remain strong. Together with lower feed costs, high prices are providing incentives for some producers to expand their cattle herds.

GRAIN, OIL SEED & PULSE CROPS

In Montana, wheat production declined by 11 percent and barley production declined by 1 percent from last year. U.S. wheat production remained unchanged, while barley production increased by 18 percent. A strong dollar coupled with high domestic wheat prices drove 2015 wheat exports down to 850 million bushels, a post-1960 record low. A near-record global wheat crop has led to a relative glut of wheat on the world market, which has translated into lower prices for Montana producers. Lower corn and soybean prices have led some analysts to suggest that wheat may look attractive to some U.S. farmers. Additional wheat production would likely continue to drive grain prices down. Futures prices suggest that wheat will be near historical averages and

considerably lower than the near-record prices crop producers experienced between 2007 and 2014.

Hot and dry conditions in Montana lowered barley yields by 6 bushels per acre. Feed barley prices have moved lower along with national and regional wheat and corn prices. Malting barley prices have been relatively stable or slightly lower in the \$5.50 to \$6 per bushel range.

Oilseed and pulse crops continue to be integrated into crop rotations in Montana. Canola production increased by 58 percent with harvested acreage approaching 80,000 acres. Pulse crops, especially dry peas, have been incorporated into many producers' crop rotations, reducing the number of acres in fallow. Pulse crops were planted on over 700,000 acres, representing just over 13 percent of the total acreage planted to wheat. However, market prices for pulse crops continue to be volatile and price discovery remains an issue for many producers.

LIVESTOCK (CATTLE)

U.S. beef production declined by 3 percent in 2015, an outcome consistent with an early expansion stage for the national beef herd in the cattle cycle. During this stage, female calves are retained for breeding rather than for slaughter. Even with a substantial downturn in beef production and lower feed costs, cattle prices have declined. Feeder cattle prices are down by \$0.10 per pound from one year ago and U.S. beef exports continue to struggle, declining by 12 percent from one year ago, due to the stronger dollar and decreased global demand for beef. If drought conditions persist in the West and southern Plains, where 60 percent of the pasture in California, Oregon and Washington is rated as poor or very poor, beef price declines are likely to moderate. Futures prices for livestock contracts suggest that cattle prices will trend downward over the next year, but remain above historical averages. ■

FOREST PRODUCTS

BY TODD A. MORGAN, STEVEN W. HAYES,
COLIN B. SORENSON & CHELSEA McIVER

2015 was a year of challenges and disappointments for wood products markets. New home starts in the U.S. failed to materialize at predicted levels and the Chinese economy's slowdown reduced exports of logs, lumber and other wood products from U.S. and Canadian producers to Asia. The U.S. dollar gained against most currencies, particularly China's and Canada's, making the U.S. a prime destination for wood products and further challenging domestic producers' abilities to sell into weakening domestic and foreign markets. Finally, the Softwood Lumber Agreement (SLA) between Canada and the U.S. expired, causing concern for U.S. lumber producers about Canadian mills flooding the already over-supplied U.S. market.

The Canadian wood products industry is thought by many in the U.S. to be unfairly subsidized by the Canadian and provincial governments, providing timber to mills at below market value. To promote fairer trade and reduce uncertainty caused by disputes, the SLA imposed quotas and tariffs on Canadian lumber imports based on U.S. lumber prices. The expiration of the U.S. and Canadian SLA was of particular concern to Montana lumber producers, who produce many of the same products and species as mills in British Columbia and Alberta, which now have unfettered access to the U.S. lumber market.

Along with these recent national and international hurdles, Montana wood products firms faced the more localized and ongoing challenges of limited log availability and relatively high log costs. Timber harvest in Montana has changed very little since 2009 (See Figure 1). While 2015 lumber prices in the U.S. were about 13 percent lower than 2014, and panel prices were down about 3 percent, delivered saw log prices in Montana were down only slightly.

Since the Great Recession, most Montana mills have only been able to operate at 60 to 75 percent of capacity, despite increased demand from slowly growing housing starts and several years of rising lumber prices. During the summer and fall of 2015, several Montana sawmills

announced curtailments, cutting production and employment from two shifts to one. Through the first three-quarters of the year, Montana lumber production was down about 12 percent from 2014. However, employment was relatively unchanged for Montana wood products manufacturing overall. This is due to the down time that panel facilities took during 2014, which offset the 2015 sawmill layoffs.

The failure of new home starts to increase, slackening demand from China and the strengthening U.S. dollar all contributed to the over-supplied wood products markets and depressed prices currently affecting U.S. mills; further reducing operating levels in Montana. How long this will continue remains uncertain. The possibility of a new U.S. and Canadian lumber agreement is not clear, and the Weyerhaeuser – Plum Creek merger raises even more questions, but the combined impacts on Montana's wood products industry and forest-dependent communities could be long-lasting. ■

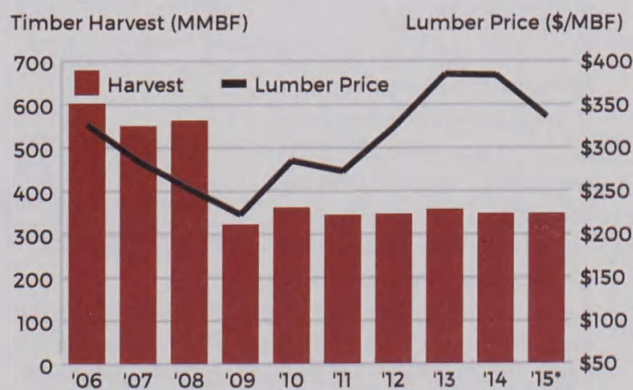


Figure 1. Montana timber harvest and U.S. lumber price, 2006-2015. (Sources: U.S. Forest Service, Montana Department of Natural Resources and Conservation, BBER, University of Montana, Random Lengths.)

OIL & NATURAL GAS

BY TERRY JOHNSON & BILL WHITSITT

The U.S. oil and natural gas industries had a tough year in 2015. Excesses in world production, political unrest and new technologies all contributed to the variability in oil, and to some degree, natural gas prices. Although oil prices have declined significantly, current production trends suggests that lower prices have not translated to a corresponding drop in U.S. production. For natural gas, prices have been more stable, but still well below historical averages.

Oil production nationally has only mildly decelerated, despite sustained low prices. By the second quarter of 2015, production had increased to 856.7 million barrels for an annual increase of 9 percent. Annual growth accelerated over 14 percent between 2011 and 2015. This growth occurred even though well head prices were erratic. For example, third quarter 2015 prices average \$47.79 per barrel compared to the 2011-2015 post-Great Recession prices of \$90. Since late 2014, prices have plummeted and have averaged about \$48 per barrel. With significantly lower well head prices, it would be reasonable to expect production to decline, unless lower prices promote higher consumption.

According to the Energy Information Administration (EIA), total world output of oil has increased 10.2 percent from January 2008 to March 2015. Conversely, total world oil consumption declined by almost 9 percent. Over the past year, output and consumption have been almost equal. Even with more affordable oil getting to market, world consumption has declined. And, with lower well head prices, there has not been a reduction in production amounts.

EIA data show that production in the U.S. increased by 38.6 percent from 2011 to 2015, while all other world production increased by only 1.4 percent. The energy revolution has changed the energy landscape, especially

for the U.S. oil sector. Horizontal drilling, hydraulic fracking, mobile drilling rigs and multi-well drilling pads have all contributed to enhanced production in the U.S. These new technologies have increased production at lower costs in places like North Dakota, Texas and New Mexico.

Although oil production is expected to rise again this year, growth is not expected to be as strong as it was in 2014. Since mid-2014, the price of crude oil has fallen, which has slowed production in marginal drilling areas and focused investment in the more developed areas of tight oil plays. Annual crude oil production is expected to grow at a slower rate, 8.1 percent this year and 1.5 percent next year, according to EIA's latest Short-Term Energy Outlook (STEO).

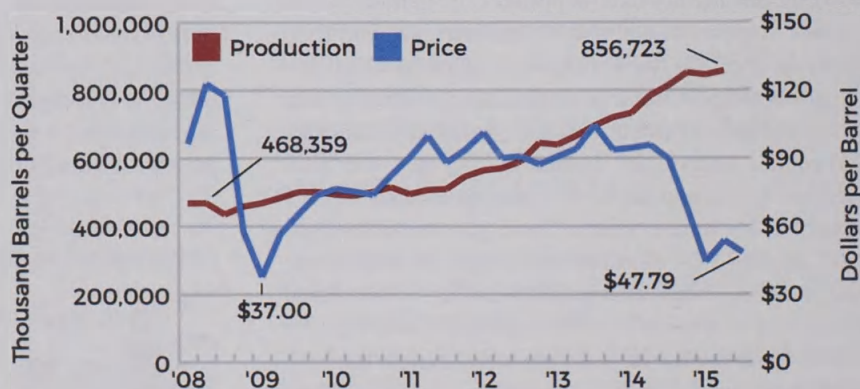


Figure 1. U.S. oil statistics, production vs. price trends, 2008 Q1 to 2015 Q3. (Source: U.S. Energy Information Administration.)

NATURAL GAS DISCUSSION

Figure 2 shows U.S. natural gas production and price trends since 2008. Production has increased over 28 percent since 2008 or about 1 percent per year. Since the post-Great Recession period, prices have averaged \$3.75 per million BTUs. Prices in 2015 averaged \$2.80 per million BTUs.

Similar to oil, the energy revolution has had a profound



impact on natural gas production. For example, production from the Marcellus region in Pennsylvania has increased more than 1,400 percent since 2009. Horizontal drilling and hydraulic fracking technologies have enhanced production in shale formations throughout the U.S.

Because of the strong growth in natural gas production, prices have softened, even though natural gas is experiencing increased demand from the industrial sector. The environmental issues with coal have caused a shift

from coal to natural gas for electricity generation. Even with this shift, prices are expected to remain low because of the oversupply of gas, especially from the Marcellus region. A backlog of uncompleted wells is expected to be reduced, which will more than offset the production declines from the Gulf of Mexico and imports from Canada are at all-time lows, while inventories remain above five-year averages. ■

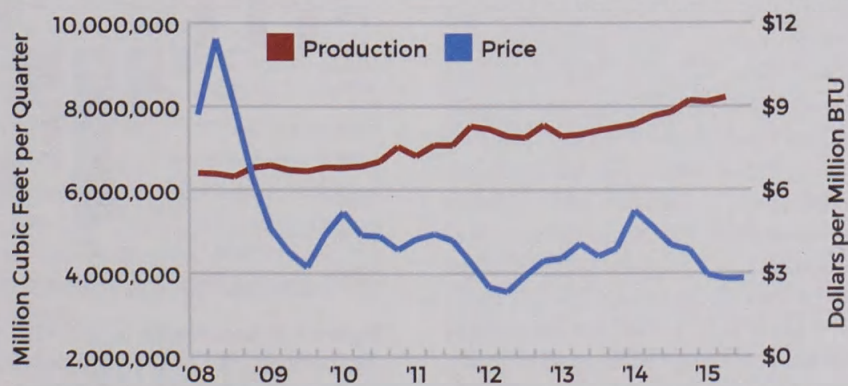


Figure 2. U.S. natural gas statistics, production vs. price trends, 2008 Q1 to 2015 Q3.
(Source: U.S. Energy Information Administration.)

MANUFACTURING

BY TODD A. MORGAN, COLIN B. SORENSON & CHARLES E. KEEGAN

After four consecutive years of growth, it appears that 2015 was the first year that Montana saw a decline in manufacturing jobs. Montana's manufacturing sector had experienced steady gains since the Great Recession ended. Manufacturing employment in the state grew between 3.5 and 5 percent annually from 2011 through 2014, outperforming manufacturing employment growth at the national level (See Figure 1). And over the same period, Montana manufacturing income grew by 3.5 to 7.5 percent annually. These gains were due in part to growth in a variety of manufacturing industries in the state, including brewing and distilling, oil refining, fabricated metals, computers and electronics, and printing. Even wood products grew, as new home starts slowly increased nationally.

Several changes during late 2014 and 2015 have created challenges for Montana manufacturing. The stronger U.S. dollar has put domestic manufacturers at a disadvantage in foreign markets and made imports cheaper at home. In concert with the strong dollar, slowing foreign economies have led to reduced exports, especially to China and Europe. The value of Montana-made exports dropped more than 3 percent annually from 2013 and exports have slipped from 10 to 8 percent of Montana manufacturers' total shipments. Slower than expected U.S. housing starts and over-supplied lumber markets hampered wood products during 2015, and substantially lower crude oil prices have begun to reduce sales by manufacturers serving the oil industry in the Bakken.

Nationally, unemployment remains low and consumer spending saw some growth during 2015. Other factors benefiting manufacturers in Montana include lower energy costs from the declines in natural gas and crude oil prices, as well as lower prices of other commodities (e.g. metals), which have helped to reduce costs of inputs for many manufacturers in Montana, including oil refin-

eries and chemical producers. Reduced activity in the Bakken may indirectly benefit manufacturing firms in central and eastern Montana by freeing up some skilled labor, which has been in short supply. House Bill 478, Montana's cottage food law, which took effect in October 2015, streamlines regulations affecting in-home or mobile food establishments. The new law may benefit some small-scale food manufacturers who do only direct (in-person) sales, do not sell out-of-state and do not use a commercial kitchen.

The new Trans-Pacific Partnership (TPP) trade agreement among 12 Pacific Rim nations, including the U.S., Canada and Mexico, could help improve the competitiveness of U.S. manufacturers by eliminating tariffs and other trade barriers, protecting intellectual property, and otherwise promoting fair competition in foreign markets. Though it is not yet clear how the various manufacturers in Montana will be impacted by this important trade agreement. ■

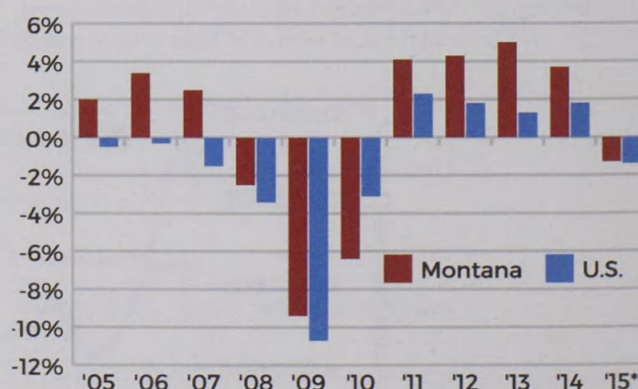


Figure 1. Percent change in U.S. and Montana manufacturing employment, 2005 to 2015. (Source: Bureau of Economic Analysis, U.S. Department of Commerce, BBER estimate.)

REAL ESTATE & CONSTRUCTION

BY SUE LAREW & PAUL OLSEN

In spite of the global financial markets and economic concerns, the U.S. economy continues to grow. When it comes to determining the strength of the economy, the housing market is a true litmus test of the economic health of a community.

In Montana, the housing market remains strong due to the reduction of unemployment. Because income is up, we are seeing an increase of new households – from new home purchases to new home construction, as well as a rise of housing developments in urban areas. Home-building is expected to continue its growth through 2016. In fact, there is a supply and demand issue for consumers looking for homes in the \$250,000 (and less) price range. The stronger economy has created an increase in state-to-state migration, especially in the oil and gas industry. Today, we are experiencing some out-migration as a result of the drop in oil prices and the slowdown of drilling. As a result, the need for man camps and additional housing has all but disappeared.

SINGLE-FAMILY CONSTRUCTION

In Montana, construction of single-family housing starts slipped last summer, however, construction is up 14.9 percent nationally. Montana shows 2.5 percent growth in new home construction, but the value of these homes is up 5.99 percent. This begs the question: are builders simply constructing more expensive homes or has the cost to build new homes increased?

The U.S. is on track to build 552,000 new homes this year, far from the over 1 million new homes built per year just 10 years ago. Nationally, new home sales are up 5 percent, but we are seeing a slowdown in the issuance of building permits in comparison to last year. Even with growth, new home sales are falling further behind the new household generation, which is causing a growth in multi-family construction. This has also led to dramatic rent increases.

MULTI-FAMILY CONSTRUCTION

Nationally, multi-family construction continues to grow along with a large increase in rental prices. This

is due to job growth and new household formation as a result of the increase in state-to-state migration. The emergence of millennials into the workforce is also a cause, as they move out of their parents' homes and into their own apartments and condos.

EXISTING HOME SALES

Existing home sales are up 6.2 percent from 2014 in the U.S., but again, inventory remains tight.

First-time home buyers were up a whopping 32 percent in 2015, which is encouraging. Again, this trend could be attributed to the growth of the millennial generation. However, tight inventory levels and increasing home values are keeping some potential buyers on the sidelines. Nationally, home prices are up 7.1 percent. Until new home construction matches the level of new household growth, we can expect prices to continue to increase.

DEMOGRAPHICS

While the entrance of millennials to the market has generated some strong economic indicators, we must factor in the impact of other influences. As millennials enter the workforce, many are saddled with high student loan debt. This, combined with low wages and high rental prices, may keep them living at home with their parents instead of establishing a household of their own. This will affect another significant population – baby boomers. While some are beginning to downsize, many boomers are still financially supporting adult children or providing them a place to live, free of charge.

THE FUTURE

In the next 10 years, the U.S. will see the establishment of 15.9 million new households. The majority of this growth will be driven Hispanics and non-whites. Of this number, approximately 10.3 million will purchase a home with the other 5.6 million choosing to rent. With the growth in households, plus an improving economy, the national housing market looks strong through 2024. ■

TECHNOLOGY & INNOVATION

BY CHRISTINA QUICK HENDERSON



In 2015, a University of Montana Bureau of Business and Economic Research (BBER) survey of Montana High Tech Business Alliance (MHTBA) members captured for the first time data measuring the size and growth potential of Montana's high tech sector. The report found that Montana high tech and manufacturing firms are growing eight to 10 times the rate of the overall state economy, paying twice the median wage – about \$50,000.

The high tech industry in Montana is not limited by geography. While there are more prominent concentrations of high tech firms located in Gallatin and Missoula counties, these companies are boosting local economies across the state including the Flathead, the Bitterroot, Great Falls, Helena, Billings and Butte-Anaconda. Central Montana's manufacturing cluster in Lewistown has created upward of 500 jobs in a community of 6,500 people.

Montana's high tech firms are diverse, but software and software-as-a-service are by far the largest industry sub-group. Perhaps the most prominent is RightNow Technologies, which employs 1,100 people, half in Bozeman. The average wage was \$86,000 when it sold to Oracle in 2011 for \$1.8 billion. Other software leaders include EDULOG in Missoula, which was founded 35 years ago, employing 150 people, and Zoot Enterprises in Bozeman, founded 25 years ago and employing 250 people.

Thirty-seven percent of respondents in the high tech industry survey said Montana's quality of life provided a significant advantage to doing business. More than a quarter of firms cited Montana's high-quality workforce

as an advantage. These advantages are persuading more tech firms to locate offices in Montana, including Workiva (Bozeman and Missoula), Helix Business Solutions (Dillon and Bozeman), Advanced Technology Group (Missoula), and SoFi (Helena). Montana salaries at some of these companies can range from \$50,000-\$75,000 with senior employees earning more than \$100,000. Perks like bonuses, free meals and on-site gyms are becoming more common.

Reflecting nationwide trends, recruiting skilled workers is the largest impediment to growth for Montana high tech firms. In addition to Montana's two and four-year colleges, a growing number of fast-track training programs are helping to expand the talent pool, including Code Montana, Montana Code School and Rev Up Montana.

Access to capital is the second most common barrier to growth. In 2015, Montana was the No. 1 state for entrepreneurial activity for the third year running, according to the Kauffman Foundation. But it ranked dead last for venture capital dollars invested according to the National Venture Capital Association's state-by-state report.

The growth of high tech has huge implications for higher education, government and business across the state and challenges older stereotypes about Montana's economic base. ■

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